Food and Nutrition

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new foods
for fun
in Nogales

communities Drive to Serve the Elderly

AN ESTIMATED 800 Americans reach their 65th birthday each day of the year to join the approximately 20 million senior citizens in the United States. One in four of this "golden age group," or about five million senior citizens, live at or below the poverty level.

Many elderly people receive direct food assistance through USDA's Food Distribution Program. But many others who are eligible are often unable to pick up donated foods in person at local food distribution outlets. Transportation may be a problem for some. Others tire easily, and food items may be too heavy or cumbersome to carry.

In December 1970 the U.S. Department of Agriculture asked the national office of the American Red Cross to join in developing a system for delivering food to these senior citizens. The proposal, called Drive to Serve, suggested using volunteers from local Red Cross chapters, who in turn would solicit help from students in Driver Education classes and other volunteers. By using this manpower and various vehicles, privately owned or part of the Red Cross motor services unit, volunteers could pick up and deliver monthly food allotments to the elderly recipients.

With help from their regional offices, USDA's Food and Nutrition Service and the Red Cross chose one location in each of the FNS five regions to begin the pilot project. The choice of locations was made according to what food distribution program was operating locally, community interest in the Drive to Serve idea, and interest expressed by the local Red Cross chapter. Actual operation of the program began when the individual communities felt they were sufficiently organized.

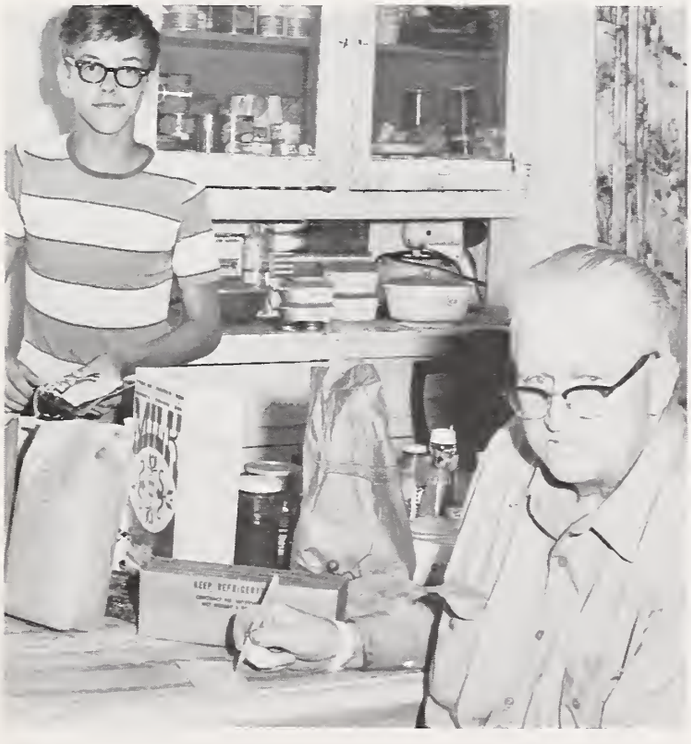
Drive to Serve now operates in five pilot areas, including San Bernardino, California; Wilmington, Delaware; Bowling Green, Kentucky; Fulton, Missouri; and McKinney, Texas.

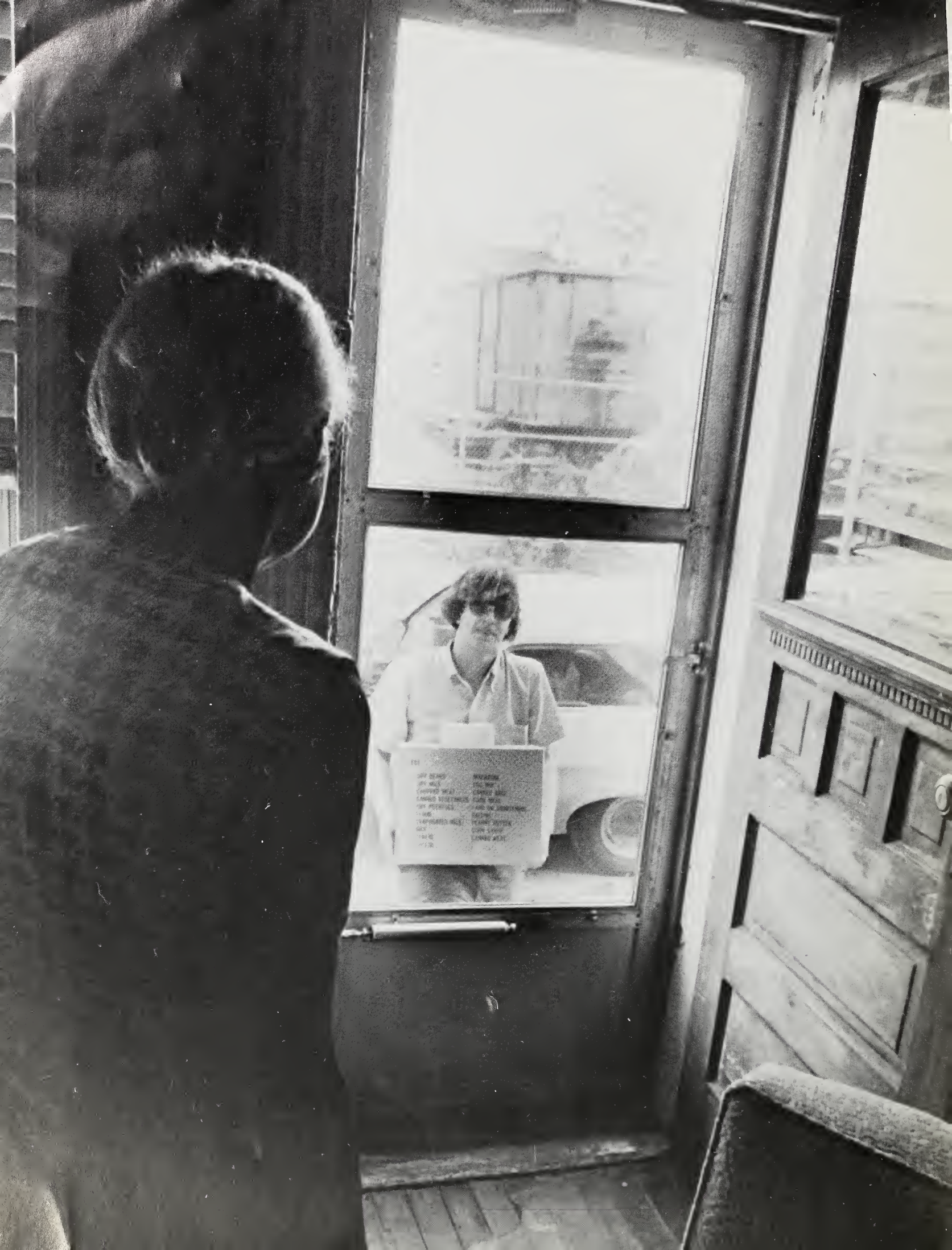
Here's how it works: The local welfare department and the food distribution director provide Red Cross workers with names and addresses of qualified elderly food recipients who need USDA donated foods delivered. Any needy person, 65 years of age or older who is certified by the local welfare office to participate in the program, and cannot pick up the food, is eligible for the service.

From the list of designated recipients, the Red Cross schedules deliveries. They line up vehicles, drivers, and volunteers to carry the food into the recipients' homes. In the meantime the distribution center uses the list to package food according to the size of each family.

In Wilmington, Del., the Drive to Serve program delivers food to 44 households. At the food distribution center (above), donated foods are packed in special boxes, which come in two sizes for one and two-person households. The contents of each package are listed on the side of the box so that the recipient knows exactly what he is getting. Packages completed, the food distribution staff (far left) helps Wilmington volunteers load the Red Cross vehicle for Saturday deliveries.

Drive to Serve volunteer, Charles Wattley (left), checks the addresses of recipients in McKinney, Texas, before loading his car. Each month 149 families have food delivered to their homes by the Collin County Red Cross and student drivers. Recipients receive their food and sign monthly food certificates (below). Volunteers in McKinney have found a great need for their services.





When volunteers arrive at the distribution center on delivery day, they refer to the delivery schedule to load the vehicles. With permission of the senior citizens, adult volunteers act as proxies and sign for the food at the distribution center. Then the cars begin their rounds.

At each address the volunteer checks the recipient's food donation certification. If all is in order, the recipient signs his monthly food certificate and turns it in to the volunteer in exchange for his food. These certificates go back to the distribution center as a receipt for the commodities.

In San Bernardino, 50 households depend on Drive to Serve's monthly deliveries. "I wish we could do more," says Mrs. Lucy Hladacek, one of the 26 volunteers recruited by the Southern California Inland Chapter, American Red Cross. Her attitude is typical of those involved in the Drive to Serve program for this city of 100,000, located 90 miles east of Los Angeles. Consequently, the Inland Chapter is considering expanding its services to include helping recipients make better use of the donated foods.

McKinney, Texas, has the largest program in terms of number of recipients. The Texas food distribution staff, the Collin County Red Cross Chapter, and enthusiastic student volunteers deliver food each month to 149 families. Volunteers find a great need for their services.

Elmo Cloyd, a Red Cross supervisor, said of his recipients, "Many of the folks had to drop from the rolls because of health reasons or lack of transportation. We picked up many who needed, but weren't getting, the food when we started delivering."

And C. J. Prashaw, chairman of the Red Cross in Collin County, said, "Plans are to soon add areas in the county for deliveries. We want to provide this service to all the elderly people who can't get their food any other way."

The Wilmington Drive to Serve program delivers food to 44 households. Some of these families have as many as seven members, but the majority have only one or two persons. Sixty-nine year old Mrs. Anita Lambert lives alone. She once had a boarder who picked up the donated food for her, but now she relies on Drive to Serve. "This is wonderful service I'm getting now!" she says. In fact, she has spread the word about Drive to Serve to disabled neighbors who need the help.

Referring to the Wilmington Drive to Serve, Mrs. Edith Kendall, Director of the Delaware Chapter of the Red Cross, remarked, "We try to be as personal and interested as we can." Her organization provides vehicles and volunteers for deliveries on the first four Saturdays of each month. Students from nearby Brandywine College work with the Red Cross on the first and third Saturdays.

Delaware has a system for packaging commodities which is convenient for the Drive to Serve operation. The State provides special boxes which the distribution centers use to prepackage commodities. For one and two-person households these boxes come in two sizes. They hold all the donated foods, except butter, which is carried separately. The commodities are listed on the sides of the boxes so the recipient knows exactly what he is getting. A prepackaged box for one person weighs 52 pounds; for a family of two, 75 pounds.

In Bowling Green, Kentucky, last summer, the Warren County Red Cross Chapter and the local food distribution center used volunteers from Driver Education classes to deliver to the elderly. The Red Cross chapter in Fulton, Missouri, and Driver Education students, using Driver Education cars during the instructional period, deliver food to a dozen families in their area.

With food distribution personnel assembling the commodities in individual cartons, Red Cross volunteers supervising delivery procedure and providing drivers and vehicles, and student volunteers helping with loading and delivery, the Drive to Serve pilot programs have become all-round community projects.

USDA plans to expand the Drive to Serve program to other areas, and eventually into a nationwide program, with the help of cooperating agencies responsible for distributing USDA food. As the program grows, other community organizations will be encouraged to participate in the volunteer work.

The Drive to Serve pilot projects have only made a dent in the problem of getting food to the elderly. But they have demonstrated that voluntary groups can work together effectively to give the "golden age group" a feeling of community involvement, as well as better diets. ☆

This article was written by Martha Cashion with contributions from Wendy Young in Dallas and Robert Marburger in San Francisco.

'Meat And Potatoes' and TACOS, too!

By Benedicto Montoya

WHEN THE NATIONAL School Lunch Program came to the small Arizona border town of Nogales, school officials wondered whether the "meat and potato" meals using USDA donated foods would be acceptable to children accustomed to frijoles, tortillas, and enchiladas.

Because the use of USDA foods was the only way that hot, low priced, and free lunches could be provided to the students, school personnel set out to gain early acceptance for the school lunch program and the new foods. In September 1971, 6 months before the program began, they organized an information campaign to win the support of parents and children.

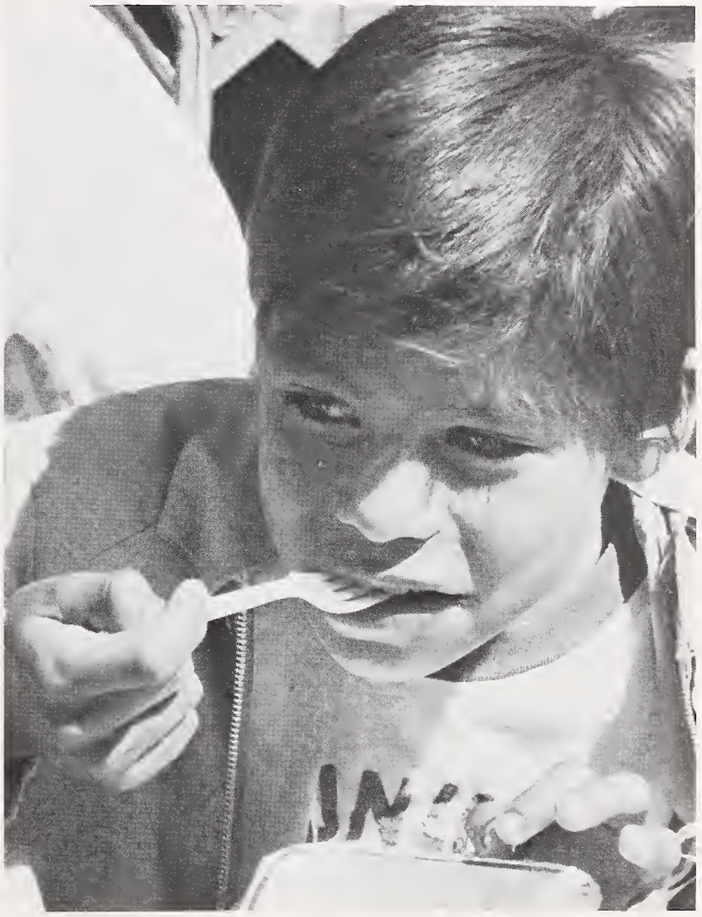
At Parent Club meetings—one attended by nearly 500 parents—and in the local newspaper, the program was explained and parents urged to allow their children to participate. Schools sent free lunch applications home with the children, along with bilingual (Spanish-English) explanatory materials.

To encourage eligible but hesitant parents, who because of pride hadn't applied for free lunches for their children, Mrs. Corine Esmeier, principal of A. J. Mitchell Elementary School and Mrs. Eleanor Baffert, third grade teacher at the school, visited nearly 100 families to explain the program.

Nutrition education programs were used to make the students aware of the importance of nourishing meals. At the elementary schools the children drew pictures of foods and saw colored slides of the four food groups. A few classes visited the newly constructed central kitchen to see where and how the meals were prepared.

When the program actually began in March 1971, teachers and teachers'

Lunches are prepared in the central kitchen at A. J. Mitchell Elementary School, and transported in a van to the other schools in Nogales. The lunch staff (opposite page) fills aluminum hot food trays with Spanish rice and peas. The lunch "packs" have been helpful to the Nogales schools, none of which have lunchrooms. Students eat at their desks, in the gym, and at special folding tables, which are set up in hallways and on the patio (left).



aides spent much of their lunch hour with the children, encouraging them to at least *try* the foods. While encouragement usually sufficed, one teacher resorted to firmer measures when faced with the spreading problem of children disliking two or three foods on their trays. She made it a rule that the children could dislike only one food a day, and only after they had tried it. It worked. The children in her room soon began cleaning their plates.

School personnel also encouraged the children by setting a good example. For instance, even though Mrs. Esmeier dislikes peas, she eats them when they are on the menu—and so do the children.

All foods served in Nogales schools are not new to the children. About once a week Mrs. Marge Colvin, manager of the central kitchen, plans Mexican foods—such as tacos with cheese or Spanish rice. Then, surprisingly enough, teachers and teachers' aides are faced with a new problem as children complain, "I can get this at home."

Everything that is served complies with USDA standards for a Type A meal, explained Mrs. Colvin, so that the children receive one-third or more of their daily recommended dietary allowances.

During the 1970-1971 school year approximately 40 percent of the children received free meals. The district has no reduced price policy. Elementary schoolchildren paying the full price are charged 30 cents per meal while high school students pay 35 cents. Teachers and teachers' aides handle the meal tickets and only they know who is paying and who is not.

By the end of the first year, the success of the lunch program had exceeded everyone's expectations. Not

"Some people said these kids will never go for this food. But they just gobble it up," said Mrs. Marjorie Colvin, school lunch manager. At A. J. Mitchell Elementary School (above), students eat at their desks and at tables in three stations in the hallways. Below, Nogales high school students gather for lunch in the gymnasium bleachers. Clean-up is easy, since trays and eating utensils are disposable, and the children wipe off their own desks. Since the lunch program began, attendance is up and the children are more energetic.

only had the children accepted the foods, but where 700 to 900 daily participants were expected, the average was 1,700 to 2,000, with a high of 2,200 children.

At A. J. Mitchell School, where the most active nutrition education program was conducted by an enthusiastic staff, approximately 70 percent of the 1,000 students participate. At other schools in the district, average daily participation ranges from a low of 10 percent at the high school, to more than 40 percent at the junior high school and well over 50 percent at two elementary schools.

Mr. Jerry Barnett, principal of the high school, expects high school participation to increase as the elementary school students move up.

"That we were able to make the lunch program work is amazing," said Rod Francis, district business manager. No school in the district has a lunch room or additional personnel to assist with the program. The children eat their meals at desks in classrooms, in the gymnasium bleachers, or at folding tables which teachers, teachers' aides, custodians, and occasionally principals, set up in hallways and outside on the patio just before the lunch hour begins.

The lunches are prepared by a staff of 16 in the central kitchen at A. J. Mitchell School, and trucked to the other five schools in a van capable of carrying all the meals at one time. The meals are packaged in two trays —a plastic container for cold foods, and an aluminum container for hot portions of the meal. As students file through the serving line, they place the hot food tray on top of the cold tray so they won't burn themselves.

They then pick up milk separately from the rest.

While the staff knows generally how many lunches to prepare, the schools call as early as possible with an exact number, and only that amount is sent. Trays and eating utensils are disposable and nothing is returned to the kitchen.

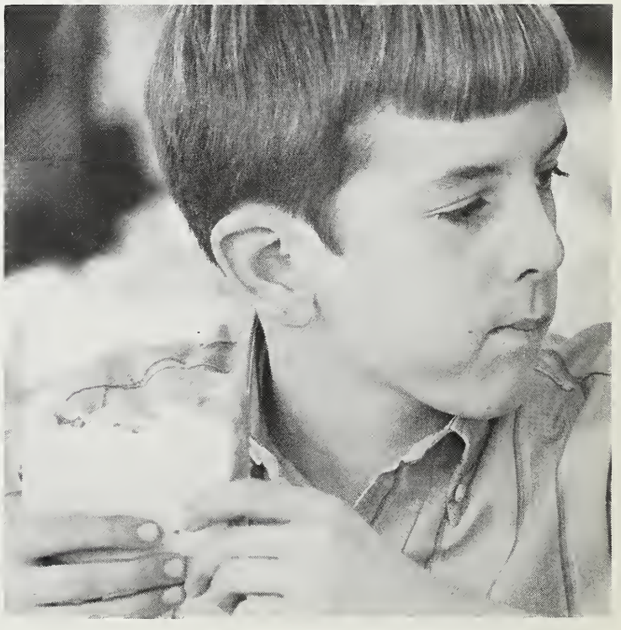
Some share of the program's success, according to Rod Francis, is due in part to the atttractive packaging of the food, but Francis credits the enthusiasm and zeal of the district's personnel as being responsible for the greater share of success.

One teacher's aide, Mrs. Eleanor Rankin, said that she would be willing to work longer and harder just to keep the lunch program. "The kids are really benefiting," she said.

Since the program began, teachers claim the children are more attentive, especially in the afternoons. Overall attendance is up, and many children who were chronically absent now come regularly. One teacher says that children in her classes during the 1970-1971 school year gained an average of 5 pounds; while she doesn't discount normal growth, she credits the school lunch program with most of the gain. Confirming the general improvement is Mrs. Judy Bell, school nurse, who says the children have gained weight and are more healthy.

The National School Lunch Program has been well received in Nogales. Through nutrition education and the close supervision of teachers and their aides during the lunch hour, the children have, as one teacher put it, "developed a·good attitude toward new foods." ☆

processing contracts mean more bread



Pottsville is only one of the smaller Pennsylvania school districts saving time and money through a processing agreement. Pottsville schools receive baked products from a Harrisburg bakery. Fresh from the baker's oven (top left), bread and rolls are loaded on the delivery truck. A few hours later, the truck arrives at a Pottsville school (top right). At lunchtime school lunch workers (below) make sandwiches using donated cheese.

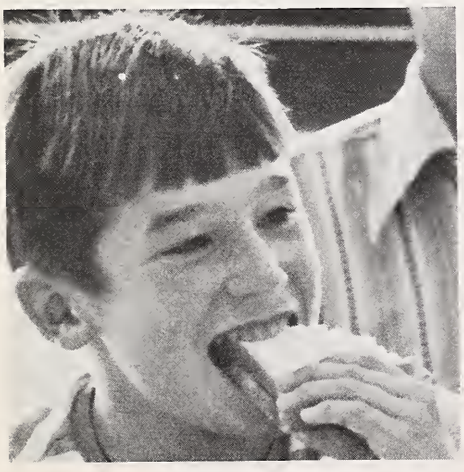
MAN MAY NOT LIVE by bread alone—but it helps to make him healthy. The bread-cereal group is one of the four basic food groups, and an essential ingredient in the National School Lunch Program.

To help schools provide baked goods in greater quantity and at reduced cost, USDA has developed a plan to make better use of USDA donated foods through processing contracts with commercial bakeries. These processing agreements, now expanded to include other food products, have saved the State of Pennsylvania about half a million dollars a year!

Many schools in Pennsylvania and other States had difficulty in fully utilizing the flour, shortening and other foods donated by USDA. Many lacked facilities or found it too expensive to process baked goods as student enrollments increased and labor costs went up. The result: schools often bought baked products directly from commercial processors and had no use for the donated foods.

This waste, it was decided, could be eliminated if donated foods could be used by commercial firms in products made for the schools. For example, by incorporating USDA flour and shortening into baked goods, bakeries could subtract the cost of these ingredients, and charge the school a reduced price.

There was only one snag: the flour distributed by USDA wasn't the kind commercial bakers use. So USDA developed a higher grade flour, which solved the problem.



The final plan has resulted in sizable savings for Pennsylvania, the State which has been in the forefront of processing contracts in the Northeast. Many of the 1008 public and private schools have worked out processing agreements. Pennsylvania schools report that the average cost of a king-sized loaf of white bread (22 ounces per loaf sliced) plummeted from 27 cents without USDA foods to 21½ cents using USDA flour and 21 cents with flour and shortening.

In a school district the size of Philadelphia, the savings can be dramatic. The city has seven processing contracts for all kinds of foods, all operating on the principle of discounting ingredients donated by the government.

A spokesman for the city's school food service department described some of the products: donated butter is processed into butter pats; dry pea beans into baked beans; durum flour into macaroni, spaghetti, and noodles; and ground pork into luncheon meats such as bologna, salami, and liverwurst. Shortening, dry milk and flour are made into white, rye, and wheat bread and instant cake mixes.

A dozen 6-inch seeded submarine rolls that cost 48 cents without USDA foods now cost 38 cents when made with USDA flour, and 37 cents when made with USDA flour and shortening. Total savings last year were impressive.

Smaller school systems are also benefiting. Miles Raker, Assistant Superintendent of the Athens, Pa., School District, estimates his annual savings for the last school year from these contracts at about $2025. Well pleased with the agreement, he said that the school usually gets a discount of 29 percent off the wholesale price for any one baked good.

Howard Fernsler, business manager for Pottsville, Pa., schools, said that a processing contract with a Harrisburg bakery "helped keep us in the black." Last year Pottsville received 8,000 loaves of bread, 3,800 dozen hamburger rolls, and 2,300 dozen hot dog rolls. This year, the contract includes a provision for "hoagies."

Another smaller district in Abington, Pa., bought 12,000 loaves of bread last year and saved $765.60 through a processing contract. The total annual saving for Abington through processing agreements was $3,255.

The processing agreements may be made by any agency receiving government commodities, such as day camps, schools, and after-school programs. The contract is made between processors and the recipient agencies with review and approval of the State's distributing agency for government foods. The manufacturer must keep records to prove that the donated flour is properly utilized and that any substitutions are made with a flour of at least equal quality.

According to Robert Freiler, who was director of the Pennsylvania Bureau of Government Donated Foods, pie shells are being processed at reduced cost for schools by a pie company which accepts USDA butter and flour. Recently, there have been discussions with cookie manufacturers about similar contracts.

Mr. Freiler adds that the trend is definitely toward convenience foods for today's schools. Schools will be demanding more precooked, processed foods, he notes, and processing contracts are an ideal way to utilize available donated foods for greater economy in the lunch program. ☆

EVIDENCE IS FAST accumulating that nutrition can influence intellectual performance and learning. Nutrition can influence both the structure and the functioning of the brain and other structures of the complex central nervous system. The relation of nutrition to learning and behavior and its implications and challenges for the total school program are important to recognize.

The development and performance of the central nervous system are cen-

HOW NUTRITION RELATES TO LEARNING

By Ruth M. Leverton, Ph.D.

tered in the biochemistry of the nerve cells. The structural component of these cells, their metabolism of energy and nutrients, and their completeness of function are related to their nutritive supply over a time continuum. The relation between the supply of the needed building materials and the final structure and its ability to function is the same for the central nervous system as for other structures of the human body. Brain and nerve tissue are built and nourished by the same blood stream as bone and muscle. Any growing organism is more vulnerable to deprivation—a reduced supply of needed building materials—than one that has attained its growth. The more rapidly it is growing, the more vulnerable it is to deprivation. The more severe the deprivation, the greater will be the damage to the ultimate development.

The effect of malnutrition on the development and the functioning of the central nervous system depends on when the deprivation occurs, how long it lasts, and how severe it is. The degree to which such effects can be reversed depends on the same factors plus the intensity and duration of the rehabilitation regimen.

The effect of nutrition on the structure of the central nervous system. The most rapid growth of the brain is from 3 months before to 6 months after birth, and 90 percent of total postnatal brain growth occurs in the first 3 years. At birth, the infant has 63 percent of his adult head circumference; at 1 year, 83.6 percent; and at 3 years, 90 percent. (Contrast these percentages with the ones for weight. At birth, an infant has about 6 percent of his adult weight; at 1 year, 16 percent, and at 3 years, 24 percent.)

This period, therefore, is crucial from the standpoint of the need for nutritive supplies and their effect on brain growth. Growth of the brain and other structures of the central nervous system is dependent on the supply of energy and nutrients and on the internal environment that will build these into highly specialized tissues. Any interruption or shortage in supplies may be reflected in retarded growth. The number of brain cells may be decreased also.

Recent findings indicate that severe malnutrition reduces the amount of DNA and protein in the growing brain. DNA (deoxyribonucleic acid) is the chemical "programmer" in the nucleus of a cell that determines the kind and amount of protein laid down to make brain tissue.

This suggests that cell division (or multiplication) in the brain is curtailed by malnutrition. In infants and children who are chronically underfed and malnourished, a smaller head circumference and brain mass accompany other indices of underdevelopment, such as low birth weight and retarded growth.

The essentiality of different nutrients for the normal structure and activity of the central nervous system is evidenced by the mental retardation which accompanies inborn errors of metabolism—genetic disorders in the ability of the body to use certain nutrients.

One example is the abnormal metabolism of the amino acid phenylalanine. In this condition, known as phenylketonuria, the body lacks an important enzyme. The result is that products of abnormal metabolism accumulate in the blood. Mental retardation in untreated subjects is usually severe with a resulting intelligence quotient below 50. Other nutrients that may be involved in such errors that result in mental deficiency include the vitamins pyridoxine and folic acid, the carbohydrate galactose, and the amino acids methionine and leucine.

It has taken us a long time to be convinced that nutrition does affect the central nervous system. Until relatively recently, the brain was looked upon as a static organ that underwent no changes after its full development, most of which took place in early infancy. This belief was based on the lack of regeneration of nerve tissue, the fact that the young child has all the neurons he will have throughout life, and the absence of permanent effects of short-term starvation on brain composition and performance.

The myelin sheath which envelops the nerve fibers is made of metabolically stable material comparable with the relatively inert tissues of tendon and bone. Once formed, it seems to be altered little during life. It is now recognized that during its development, however, the myelin sheath is particularly vulnerable to the stress of undernutrition. Because the period of greatest growth of the central nervous system—including the myelin sheaths—is late prenatal and early postnatal, much of its resistance or vulnerability to the effects of malnutrition has been established by the time the child is exposed to the indigenous food supply.

To summarize: Nutrition does influence the structure of the central nervous system. The most crucial time of such influence is from three months before birth until six months after birth and continuing but at a much reduced rate until the child is about three years old. This fact has great implications for what the school can teach teenagers about their role in determining the mental as well as the physical status of their offspring.

The effect of nutrition on the functioning of the central nervous system. Functioning is manifested and judged by mental ability and performance, often referred to as learning and behavior.

Even after adequate structure of the central system is assured, the system is markedly susceptible to specific types of dietary deficiencies regardless of age. Extreme and prolonged deficiencies can cause structural degeneration as well as seriously impaired functioning. Mildly inadequate or borderline intakes of specific nutrients affect the functioning of the central nervous system to a lesser degree but still can interfere with learning and performance.

Thiamine deprivation causes anxiety, irritability, depression, and increased sensitivity to noise and pain. Inadequate amounts of nicotinic acid result in lassitude, apprehension and depression, of vitamin B_{12} in mental confusion, of iodine in low basal metabolic rate and physical and mental languor. Insufficient iron results in lowered hemoglobin and reduced capacity of the blood to carry oxygen needed for normal functioning to the tissues. In their early stages, mild forms of undernutrition are accompanied by an increase in motor restlessness. In later stages, depression of

motor activity sets in.

Beyond the changes that occur in specific deficiency diseases, the effect of nutrition on the functioning of the central nervous system cannot be separated from the effect of a whole complex of environmental factors. Malnutrition in man never occurs in isolation, free of other environmental factors. Nor does mental ability develop or function in the abstract, without relation to culture.

There is a synergistic action between the nutritional status of children and the education, economic status, motivation, and responsiveness of their parents. All of these are known to influence total performance. In this area we have few specific quantitative measurements. We know, however, that the lessened energy, the inability to concentrate, and the easy fatigue that accompany undernutrition are likely to cause inferior ability to cope with one's environment and to achieve one's objectives.

Implications for the school program. We recognize that long before school age, the *structure* of the central nervous system has been completed and the extent of reversibility of any of its limitations has been largely determined. Such completeness at an early age is not true, however, of the *functioning* of the central nervous system. In this area, environment holds the key to development.

The lateness of time when conventional school experience enters the arena as an influence in functioning capacity in no way minimizes its responsibility or its potential as a force for advancement of human behavior. In our population, subpotential performance of an individual is more likely to result from impaired functioning than from impaired structure.

The school has an important role in promoting and maintaining the nutritional well-being of the child so that he may learn and function at optimal levels. Its responsibilities and opportunities for this involve every aspect of the school's program, chiefly: health service, classroom teaching, school feeding, and parent and community involvement.

The school *health service* needs to be alert to the nutritional status of the children, to borderline malnutrition and suboptimal performance as well as to outright symptoms of malnutrition. It should recognize those who need attention, advise parents about medical and home care, and, when necessary, arrange for appropriate treatment for those who cannot get it otherwise.

Poverty or low socio-economic status are not the only causes of poor nutrition. It is possible for a child to be well-fed but poorly nourished because of unrecognized conditions that interfere with the body's use of the energy and nutrients from the food ingested. Infection, physiological and psychological stress, are among the most usual of such conditions. It is also possible for a child to be poorly fed and malnourished because of poor food habits and lack of home supervision, even though he comes from a middle-class or affluent home.

After a child receives treatment, effective followup and periodic checking are needed to assure that the improvement is maintained. The health service has responsibility for the health of the entire school population. This gives it the opportunity to convey the positive approach to food and health, to set examples of good attitudes and habits, and to participate or otherwise support school programs related to food and health.

Facts about food and health, including the formation of good food habits and attitudes, have an important place in *classroom teaching.* A few years ago specialists in the fields of nutrition and education formulated some basic concepts for nutrition education, intended to serve as guidelines for teaching nutrition and in the development of sequential courses of study for food and nutrition and health in the elementary grades.

These concepts summarize the nutrition knowledge that is applicable to food-for-people-for-health. They cover the minimum of information needed for wise food selection without including details that could confuse the user. The concepts also represent a consensus of opinion among nutrition scientists and educators about which facts and ideas are so important to health that all people should understand them.

Recent expansion of the *child nutrition programs* has broadened the role of the school in providing food to its students and to out-of-school children. An effective program does more than give children food they need and enjoy. It provides an opportunity for developing and reinforcing good food habits through repeated practice and experience. Far too many administrators, teachers, parents, and community leaders have looked on the school lunch merely as a mid-day filling station.

To fully reach its potential for improving and maintaining a sound body to house a sound mind, school feeding must be understood, appreciated and supported by the administration, the teaching and medical staff, and the community.

The school can reinforce and extend its influence on the food habits and the nutritional status of the children through parent and community involvement. This is a two-way street; each benefits the other and is benefited by the other. Together they provide the conviction that food is important to everyone all the time.

Never has the school been needed more to give support and offer leadership to community programs. Many of these programs have a food or nutrition component. Interest on the part of the school staff and coordination with on-going school programs can maximize the effectiveness of both in-school and out-of-school teaching and related activities. ☆

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Dr. Leverton is Science Adviser, Agricultural Research Service, USDA.

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EDWARD J. HEKMAN
Administrator
Food and Nutrition Service

BONNIE W. POLK, Editor
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